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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,059	03/17/2004	Toshiya Nakayama	TAM-049	1695
20374	7590	07/05/2005		
KUBOVCIK & KUBOVCIK SUITE 710 900 17TH STREET NW WASHINGTON, DC 20006			EXAMINER COSTALES, SHRUTI S	
			ART UNIT 1714	PAPER NUMBER

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,059

Applicant(s)

NAKAYAMA ET AL.

Examiner

Shruti S. Costales

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/28/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on July 28, 2004 was filed in compliance with the provisions of 37 CFR § 1.97. Accordingly, the information disclosure statement filed by the applicant has been considered by the Examiner.

Specification

2. The abstract of the disclosure is objected to because the applicant makes improper use of legal phraseology, in particular use of the term "comprising". Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

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The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "A transport and storage carrier for semiconductor wafers, the carrier being molded from a resin composition having a synthetic resin and a carbon fibril".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Massengale et al. (U.S. Patent Number 5,686,521), hereinafter referred to as Massengale.

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Massengale discloses milled carbon fiber reinforced polymer and articles fabricated therefrom for use in the semiconductor processing field such as for the preparation of semiconductor wafer cassettes and/or wafer transport boxes (Col. 1, lines 9-11 and Col. 2, lines 56-62). It is to be noted that fibrils, as recited in the presently cited claims, are a type of fibers. Polyolefins or polyamides may be used as base resins, including polyetheretherketone (PEEK) (Col. 3, lines 7-20). As Massengale and the presently cited claims name at least one common resin, namely the polyetheretherketone, the melting temperature of the resin would inherently be at least 300° C as recited in the presently cited claims. Massengale also discloses a static decay of <2 seconds measured in a range of +5KV-5KV (Tables I and II shown in Cols. 7 and 8).

The base resin is present in an amount between 66 – 81% by weight of the working composite material (Col. 3, lines 52-55). The milled carbon fibers are present in an amount between 19% to 34% by weight of the working composite material (Col. 4, lines 15-19). Further, the milled carbon fibers have an average fiber length of less than about 0.010 inches and a diameter of between 0.0007 and 0.0009 inches (Col. 3, lines 66-67 and Col. 4, line 1). The fiber length and diameter translate into an aspect ratio, defined as length/width for fibers, of from 11.11 to 14.28.

In light of the discussion above, it is clear that the presently cited claims are anticipated.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Massengale in view of Kinoshita et al. (U.S. Pre-Grant Publication Number 2002/0139961), hereinafter referred to as Kinoshita.

The discussion above regarding Massengale in paragraph 5 is herein incorporated by reference.

Although Massengale does not disclose other synthetic resins such as polyetherimide or polyethersulfone, Kinoshita discloses super engineering plastics such as polyethersulfone and polyetherimide in addition to polyetheretherketone (Page 7, paragraph [0126]) for use in a substrate for electronic circuitry (Page 7, paragraph [0118]). It would have been obvious to one of ordinary skill in the art to use Kinoshita's listed super engineering plastics in Massengale's carbon fiber reinforced polymer and

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articles fabricated therefrom because these super engineering plastics have electroconductive properties (Page 7, paragraph [0119] and [0126]) rendering the semiconductor wafer carriers useful for transport and storage capabilities as electrostatic charges can be dissipated by these electroconductive super engineering plastics, thereby obtaining the invention as set forth in the presently cited claim.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Massengale in view of Kubotera et al. (U.S. Patent Number 6,540,945), hereinafter referred to as Kubotera.

The discussion above regarding Massengale in paragraph 5 is herein incorporated by reference.

Although Massengale does not explicitly disclose adding milled carbon fibers to the reinforced polymers in an amount of about 0.99 to 9.09 wt%, as recited in the presently cited claims (calculated by assuming the total weight of the composition to be in the range of from 101 [1 part carbon fibrils + 100 parts resin] to 110 [10 parts carbon fibrils + 100 parts resin]), Kubotera discloses adding carbon fibers to resin for making chip carriers (Col. 1, lines 14-20) in an amount of from 5 to 50% by weight of the resin (Col. 3, lines 14-20). It would have been obvious to one skilled in the art to add a broad ranging amount of carbon fibers to the resin of Massengale because the carbon fibers facilitate dissipation of static charges and provide enhanced electromagnetic shielding (Col. 1, lines 30-61 and Table 1), thereby obtaining the invention as set forth in the presently cited claim.

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Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shruti S. Costales whose telephone number is (571) 272-8389. The examiner can normally be reached on Monday - Friday, 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

SSC
Shruti S. Costales
June 27, 2005

Vasu Jagannathan
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